1 A... 1955

MEMORANDUM FOR: Mr. C. Lockerby, IBM

SUBJECT : DASD Training for Agency Computing Center
Personnel

As you know, I have just completed the DASD course at the
IBM Training Center. The third day, given by [   ] was   25X1A
specifically IBM 360 and 80% oriented to OCS requirements.

I would like to request that IBM arrange a one-day course
for approximately 40 people to be given by [   ] either at IBM   25X1A
or at the Agency. One day in the period 8-16 April would be a good
choice for OCS personnel.

Some considerations for the course are:

1. The audience will be mainly data processing types,
most of whom have been trained in COBOL and are program-
ming the IBM 1410. Few will have used binary manipulation
extensively.

2. Approximately 10-13 know only the RCA 501 but have been
briefed on the new applications proposed for IBM 360 DASD.

3. Large 360's (mod 60-64, 260K with 1 M bulk core) are
the driving CPU's.

4. Three examples of files are as follows and all will be
on-line with remotes:

   a. 0.5 billion bytes on two data cells;
   b. 0.1 billion bytes on one data cell growing to
      multiple data cells;
   c. 3 million bytes on a 2311.

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5. A 2302-4 will be tied in to stack intermediate card and list files and job queues.

6. At least the 0.5 billion byte file is being designed now to be put on a tape system on an IBM 7010 using COBOL. Queues will be batched and run at night until random access can be used on-line in a multiprogramming environment.

7. Assume no DASD experience in the audience, and thus make no analogies to IBM's 1302, 1405's etc. Audience will have had briefings on IBM 360 and another on its DASD's.

COURSE OUTLINE

1. Track format

    a. Emphasis on implications of features common to all devices.

2. Function codes
3. 2311
4. 2302
5. 2321 (movie is optional)
6. 7320
7. Formulae for track capacity (records)
8. S/360 support of types of files
9. Ways of randomizing keys:

    a. Significance of using an 8-bit byte in techniques such as folding or multiplication. Does an 8-bit byte improve or degrade these techniques vs. 6 bits?

    b. Keys as binary members rather than BCD.

    c. Key size as a function of control field size and of file size, especially in the 1-5 million record range.

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10. Basic Operating System vs. Operating System in File Support. E. g., will O.S. not interlock the CPU on consecutive file processing, etc. ?

11. Files

    a. Consecutive

        Significance of CPU interference in multiprogramming, also on mod 60 multiplexor

    b. Direct Access Method (unblocked)

        How to design 1410/7010 files to be used a year and then converted efficiently to this format, utilizing the power of binary.

        Stress the advantages and significance of binary thinking rather than BCD.

    c. Index Sequential File Management System

        1. Describe;
        2. When to use and when not to use;
        3. Suggest ways to update large files frequently, such as keeping a small auxillary file until less frequent and major updating. What are housekeeping problems?
        4. Timings on random access on this type and for various sizes.

12. File Scanner (Hardware on 2841)

    a. How to use?
    b. Is it other than equal or not equal?
    c. What are implications of using on the three file types? in multiprogramming?

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13. COBOL

    a. How does COBOL handle the binary characters from 0-255?

    b. Will COBOL take advantage of the File Scanner on the 2841? If so, how?

    c. Outline some suggestions for moving from systems in 7010-COBOL to systems in 360-COBOL.

25X1A

[ ] had most of these answers at her finger tips, and she communicated well, thus believe she could do an excellent job for OCS.

[ ]

25X1A

Chief
Technical Staff

25X1A

[ ]

1 April 1965

MEMORANDUM FOR: Chief, Development Division
                                Chief, Scientific Division
                                Chief, Applications Division
                                Chief, Operations Division

SUBJECT   : Appropriate Training for Direct Access
                      Storage Devices

      1. The three-day course on DASD, Direct Access Storage Devices given at the IBM Training Center is very inadequate for OCS personnel. Only the last five hours of the course pertain to OCS needs and the first two days serve to confuse those last five hours. Also all 360 DASD given was specifically for small 360's (8-32K), no consideration for multiprogramming, multiplexing, etc.

      2. I have made up an outline for a DASD course oriented to the IBM 360 and to OCS and have requested IBM to give this for 40 persons, either here or at IBM. The proposed timing is as follows:

      a. Two hours of general DASD concepts.

      b. A 6-7 hour session (full day) on the IBM 360 DASD oriented to systems which will be derived from test models or tape systems programmed in COBOL.

      3. I have proposed the period 8-17 April 1965.

25X1A

                                        Chief
                                Technical Staff

LFR:mm

25X1A   cc:

DEVELOPMENT DIVISION ROUTING SHEET

Name	Initial	Date
	~~DiCostanzo~~	

File

Comments:

All interested personnel please indicate on routing sheet

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